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ABSTRACT

The development of critical ability, or cognitive criticism, is being studied in a two-year Swedish project described in this progress report. Cognitive criticism is valuable in all occupational fields, but especially futurology and technology assessment. This project proposes to make concrete the aims of critical training, and to identify and synthesize common trains of thought in the extensive material on cognitive criticism. The project will lead to concrete proposals regarding teaching, and it should help construct a basic course in theoretical philosophy with emphasis on critical thought. Such a course could be combined with several university subjects at the undergraduate level. (LBH)

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BACKGROUND AND RELATION TO PREVIOUS RESEARCH

The demand for critical training at undergraduate level in university education can be expressed in a variety of ways, and the various possible modes of definition are worth discussing. This problem has attracted a certain amount of attention in educational theory. A summary of the discussion will be found in Jernryd and Svensson (1975), which emanates from a project at the Malmö School of Education.

When the concept of critical training is studied, there is some risk that educational content is neglected. The subject matter having a bearing on critical training must receive attention. The analysis also demands subtle distinctions concerning the relationship between educational ideals which are partly interrelated and partly different. What is the relationship between critical ability and independence? What is the relationship between both these entities and the qualities of aggression and unwillingness to co-operate? Furthermore, how is critical ability related to creativity and selection capacity?

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Methodologically speaking, questions of this kind come within the scope of studies which have been pursued with particular assiduity in the Anglo-Saxon countries under the heading "philosophy of education". The most distinguished name in this sector is probably that of Israel Scheffler. This branch of Anglo-Saxon philosophy and pedagogics has left relatively little mark on the activities of Swedish universities.

In analysing "critical ability" and related ideals, one can adopt approaches which have been developed in the philosophy of education. At the same time there is reason to take into account the subject matter of methodology. Guidance may be obtained here from current teaching in theoretical philosophy and the theory of science. One of the principal aims of the instruction in these subjects is to develop in the students a critical attitude towards knowledge. Perhaps the approach thereby adopted has won wider acceptance in recent years as a result of the "critical theory" of the Frankfurt School and kindred radical ideas.

One also has to realize, however, that other academic subjects contain subject matter of value to critical training. Examples include the source criticism cultivated in the historical sciences, the rules of evidence studied at faculties of law, psychology of testimony, the sociological theory of communication, sociology of knowledge, mass communications research and practical statistics. Material from all of these fields has a substantial bearing on the development of critical ability.

This does not mean to say that training in the criticism of knowledge should involve instruction in a motley collection of disciplines. The diversity of this knowledge is less unwieldy than it may seem at first sight, because there is a similarity of approach - the type of criticism which should be familiar to the newspaper reader and the television viewer, is essentially the same as that employed in historical research. However, the ostensibly heterogeneous material needs to be subjected to analysis and adjustment so as to bring out the fundamental structure.

In this type of analysis, consideration should be given to the problem of application. Cognitive criticism is of value in all occupational fields; the citizen needs it and it can be utilized in private life. But its utilization demands preparations. An inventory of potentialities is therefore motivated. Important fields of application include futurology and technology assessment.

It is natural if an analysis of the cognitive material mentioned above is linked to a discussion of the pedagogical aspects. The mental processes and skills to be utilized in the analysis are of a kind suitable for teaching purposes.

PURPOSE

The project is aimed at analysing an extensive corpus of cognitive material available within a variety of subjects. One of the principal purposes here is to make concrete the aims of critical training. This of course demands an interpretation and definition of the concept of critical training. Another important purpose of the investigation is to identify and synthesize common trains of thought in the extensive material of cognitive criticism. As work proceeds, attention will be paid to the potential applications of critical training and to pedagogical viewpoints concerning critical training. The project will lead to concrete proposals regarding teaching.

During the project use will be made of pedagogical research in the behavioural sciences, but the main focus will be on the analysis of concepts and cognitive material.

PLAN OF INVESTIGATION

The project will be conducted between 1976 and 1978. Activities during 1976-1977 have proceeded by three stages.

Stage 1. Certain fundamental questions are discussed during an introductory stage. The main question concerns the concept of critical training. How is critical ability related to independence, creativity, a sense of essentials and logical sense? To what extent can it be developed? And what can one reasonably expect to achieve in this respect during a limited period? One important problem in the last mentioned connection concerns the extent to which critical training is connected with such psychological factors as feelings of insecurity, prestige and aggressiveness.

During a preparatory phase activities were related to the above mentioned investigation by Jernryd and Svensson and also to the relatively meagre discussion of the concepts of critical ability and indoctrination which has taken place within the Anglo-Saxon philosophy of education. Afterwards, attention has been concentrated on an analysis of the concept of critical ability. This includes consideration of the methodological material to which critical ability refers. Certain findings have been presented in an essay by the project leader, entitled "What is critical ability?" During the concluding phase of activities at this stage, attention will focus on certain preconditions of psychology of personality and on certain pedagogical consequences. Work will then tie in with activities at stage 2. The project leader will be responsible for the final report.

Stage 2. The results achieved during the introductory stage of the project will be processed during the ensuing stage and translated into concrete educational proposals and also into texts which can be used in the basic and subsequent training of teachers. The following are some important tasks occurring at this stage.

1) Analysis of subject matter in a number of important and essentially different fields of study (medicine and political science, possibly history as well).
2) Analysis of cognitive structures within the subject-matter.
3) Educational presentations of the material thus articulated.
4) The compilation of discussion material.
5) The selection of supporting texts presenting empirical material of importance to critical training.

Written material will be compiled during stage 2 and discussed with representatives of different academic fields. A final edition of the material will then be prepared in the light of the viewpoints which have thus emerged. The project leader will draw up a concise and more formal summary of this episode of the work.

Stage 3. Work during this stage was prepared during the first year of the project by an analysis of methodological textbooks from a variety of disciplines. A certain amount of interest attaches to the different relations existing between methodological assessments in different research traditions. A relatively uncomplicated relationship exists when assessments within two different traditions harmonize. A synthesis may then be educationally effective and may present an opportunity of more abundant exemplification. More interesting, however, from the viewpoint of cognitive theory is the situation occurring when methodological assessment within one research tradition differs or appears to differ from that of another. One such example is to be found in the attitude taken by Weibullian tradition to what is termed the original probability of the subject of a testimony and, on the other hand, the approach adopted in the law of evidence. Here one has reason to undertake an analysis which will elucidate the rules of application that are taken for granted and which will make it possible to reconcile the different traditions. A third type of situation is that which arises when methodological reflection in one discipline has progressed further than methodological reflection in another as regards assessment of a particular side of methodology. Practice within a scientific discipline can then be justified by the discussion of principles in another. One example of an advanced theory of method which immediately springs to mind is P.O. Ekelöf´s general theory of the compilation of evidence, which among other things has a bearing on historical studies.

It should be possible for the results obtained at this stage to be presented in a single publication which will possess the dual character of scientific account and university textbook. The material ought presumably to be grouped under four main headings: a) Concept formation, b) Evidence, c) Explanation, d) Research strategy. However, the problem of the division of the subject-matter can only be solved as work progresses.

Stage 4. During the final stage of the project certain educational consequences will be kept under observation. Training in cognitive criticism should be utilized in connection with further studies. It is only reasonable that examinations should be composed with this in mind. The following questions may therefore be asked when a university subject is analysed.

1) To what extent do examinations in the subject convey any idea of the students' critical ability?
2) Can examinations in the subject be modified so as to convey a better idea of the students' critical ability?

The final stage of the project will also include an investigation of written examinations in a number of degree subjects. It would be natural here to concentrate on the disciplines investigated during stage 2, but it is also reasonable that the framework of the investigation should be broadened somewhat. In the analysis of the written examinations a list will be compiled of different types of question. The value and suitability of different types of question formulation will be discussed with teachers of the subject concerned. Particular consideration will here be given to the influence of examinations on student motivation.

The sub-study referred to above should of course lead on to viewpoints concerning the best way of integrating training in cognitive criticism with other teaching in a particular field. In this connection renewed attention should be paid to the subject matter of studies. This will involve a reversion to the questions studied in stage 2.

The results accruing from this stage ought probably to be presented in the form of reports concerning the subject areas studied. Thus separate reports could conceivably be prepared concerning medicine, history and political science, the subject in which the integration of critical training and concrete subject matter is to be analysed. But it is also conceivable that a more generalized form of presentation could be appropriate. The project leader will be mainly responsible for the final presentation of results from this stage. Stage 4 ties in with Kurt Gestrelius' project "Adult education as a field of knowledge and a field of application".

Activities in stage 1 will probably be completed in the summer or autumn of 1977. Stage 2 has proved to be relatively time-consuming but should, it is hoped, be completed in the summer of 1978. Most of the work involved by stage 3 will be done in 1977-78, possibly with a certain amount of spill-over into the autumn term 1978. Stage 4 will begin in the summer of 1977 and is expected to be concluded in the summer of 1978.

SIGNIFICANCE OF THE PROJECT

To my knowledge, no attempt has been made to analyse and synthesize the extensive corpus of knowledge which will be dealt with in the present study. The analyses of the concept of critical ability summarized by Jernryd and Svensson in the work referred to above do not relate to concrete subject matter. In this respect the present project should present a new departure.

The original practical reasons for the project were statements contained by two UKÄ reports, entitled "The Future of Higher Education" and "Educational Planning for Reform", concerning the link between education and research and the need for critical training. This project is also closely related to the scheme of general education programmes in the arts and information occupational sector which has been drafted by a study group appointed by the Faculty Committee for Arts and Theology. The Faculty Committee has endorsed the draft in principle, and the draft is now being circulated to various authorities and organizations for comment. According to this draft, general educational programmes should start with a 20-point basic course aimed at providing students in various ways with training in critical thought. The basic course presupposes research of the kind intended in this project.

The project should also help towards the construction of a 10-point basic course in theoretical philosophy with particular emphasis on critical thought. This could be combined with several university subjects at undergraduate level.

Sören Halldén

28th February 1977